

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants basically:

1. Thank the Examiner for allowance of claims 5, 9, 10, 12, 13, 25, 28, 30, 32, 34 and 35.
2. Cancel claims 2, 8, 11 and 22 without disclaimer or prejudice.
3. Add new independent claims 36, 38, 40, and 42 (generally corresponding to cancelled claims 2, 8, 11, and 22, respectively) and new dependent claims 37, 39, 41, and 43 respectively dependent upon new independent claims 36, 38, 40, and 42.
4. Respectfully traverse all prior art rejections.

B. PATENTABILITY OF THE CLAIMS

Claims 2, 8, 11 and 22 stand rejected under 35 USC 103(a) as being unpatentable over the Suzuki et al reference in view of the Karube et al reference. All prior art rejections are respectfully traversed for at least the following reasons.

New independent claims 36, 38, 40, and 42 reflect the layered nature of the claimed polymer electrolyte fuel cell, specifically reciting that the cell has spaces provided between the anode-side supply inlet and the anode-side collector and between the anode-side collector and the anode. Thus, the polymer electrolyte fuel cell comprises layers of an anode-side collector (which acts as biocatalyst to decompose the material for fuel to generate hydrogen), an anode, a membrane, a cathode and cathode-side collector. The polymer electrolyte fuel cell of the amended claims thus now clearly has a layered structure.

By contrast, in Suzuki et al, as shown by Suzuki Fig. 10, the gas-type hydrogen fuel cell utilized immobilized Clostridium butyricum is not constituted by layered structure. There is no teaching or suggestion in the applied references of a polymer electrolyte fuel cell being constituted by layered structure. Certainly a layered structure would not be derived or suggested from the fuel structure of Suzuki Fig. 10, or by merely compacting components shown in Fig. 10 within a housing.

Nor would the artisan would be motivated to immobilize the layer of catalyst on the anode current collector of Suzuki. As described on page 1, lines 10-25 of Applicants' specification, the anode-side collector containing a biochemical catalyst decomposes an oxygen-containing hydrocarbon as the material for fuel, and generates hydrogen as fuel which is supplied to the anode. On the other hand, the anode induces an electro chemical reaction to generate electricity. In other words, the roles of the anode-side collector and the anode are completely different. Further, it appears that the anode current collector in Fig. 10 of Suzuki (which is covered with gel-trapped microorganism) cannot even perform the of the anode-side collector and the anode as prescribed by Applicants' new independent claims.

Applicants also think that the office action overreaches in assuming that the anode side of the collector of Suzuki inherently has electrical conductivity.

C. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,
NIXON & VANDERHYE P.C.

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